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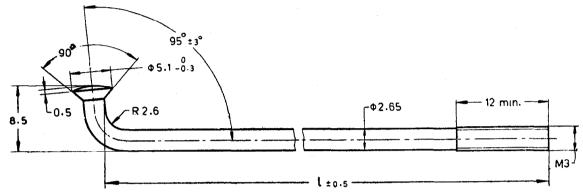




Indian Standard

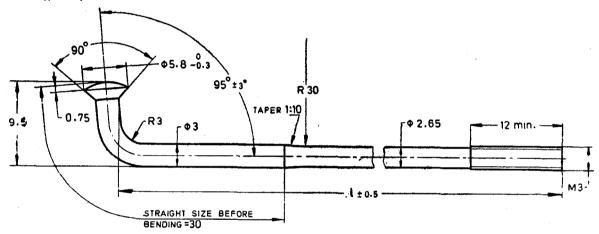
SPECIFICATION FOR SPOKES MOPED SPOKES AND NIPPLES FOR SPOKES

- 1. Scope Covers the requirements for moped spokes and nipples intended for use with them.
- 2. Dimensions
- 2.1 Spokes
 - 2.1.1 Plain spokes



All dimensions in millimetres.

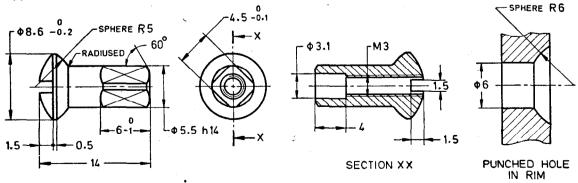
2.1.2 Offset spokes



All dimensions in millimetres.

2.1.3 Length of spokes, 'I' — The spokes shall be supplied in lengths as specified by the purchaser or in accordance with the current trade practices to suit the particular type of wheel or wheels for which the spokes are designed.

2.2 Nipples



All dimensions in millimetres.

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3. Material

- 3.1 Spokes The spokes shall be manufactured from steel having an ultimate tensile strength in the range of 1 000 to 1 400 MPa.
- 3.2 Nipples The nipples shall be manufactured from suitable grade of brass or from steel conforming to designation 13S25 of IS: 4431-1967 'Specification for carbon and carbon-manganese free-cutting steels'.

4. Manufacture

- 4.1 Spokes The wires used for the manufacture of spokes shall be free from surface defects, piping or harmful segregation. The wire shall be processed during manufacture in such a way that it lies flat in coils of even diameter and is free from corkscrew effect. The spoke heads shall be smooth so as to fit correctly in the spoke hole.
- 4.2 Nipples The hole in the nipple shall be drilled centrally through the head. The threads shall be neatly formed.
- 5. Finish The spokes shall be either galvanized or nickel chromium plated. The nipples manufactured from steel shall be nickel plated.

6. Test for Spokes

6.1 Reverse Bend Test for Spokes — The spoke wire shall be capable of being bent backward and forward not less than three times through an angle of 180° without showing signs of fracture (see Fig. 1). The first bend of 90° shall not be counted.

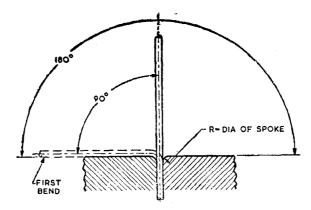


FIG. 1 REVERSE BEND TEST FOR SPOKE WIRE

- 7. Marking Shall be stamped or etched on the spokes and nipples.
- 7.1 Spokes Shall be appropriately marked on their head with the following:
 - a) Size, and
 - b) Manufacturer's name or trade-mark.
- 7.2 Nipples Shall be marked on their head or body with the following:
 - a) Size, and
 - b) Manufacturer's name or trade-mark.
- 7.3 /S/ Certification Marking Details available with the Indian Standards Institution.
- 8. Packing The spokes and nipples shall be wrapped in non-absorbent greased paper and then securely packed in water-proof strong card-board carton according to best prevalent trade practices. Normally a carton should contain 150 spokes unless otherwise specified by the purchaser. Each package shall be legibly marked with manufacturer's name or trade-mark, quantity of material and type of finish.
- 9. Sampling Unless otherwise agreed to between the purchaser and the manufacturer, the procedure given in IS:2500 (Part I)-1973 'Sampling inspection tables: Part I Inspection by attributes and by count of defects (first revision)' shall be followed. The single sampling plan to

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be followed for each characteristic, shall be corresponding to the inspection level and AQL, is given below:

Characteristic	Inspection Level	AQL
Dimensions, manufacture and finish	111	2'5
Material and reverse bend test	t .	1.0

EXPLANATORY NOTE

In the preparation of this standard, assistance has been derived from the following standards, issued by DIN Deutsches Institut fur Normung:

DIN 74371 Blatt I Speichen-abgewinkelt fur Kraftrader (Bent spokes, for motor-cycles)

DIN 74371 Blatt II Speichen-speichennippel fur Kraftrader (Bent spokes, spoke nipples for motor-cycles).

The unit of tensile strength used in this standard is MPa. The relationship between MPa and kgf/mm² is as follows:

1 MPa = 1 MN/m²
= 0.1 kgf/mm² (within 2 percent error)